

LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 through 17. (Cancelled)

18. (Currently amended) ~~A method for coating a substrate, a transparent substrate with a coating system, comprising: according to claim 1, characterized in that the deposition of the individual layers is~~

~~performed by performing~~ a dip or spin method of sol-gel techniques to deposit at least five individual layers on the transparent substrate, wherein consecutive layers of the five individual layers have different indices of refraction and the five individual layers have UV and temperature-stable inorganic materials, wherein the interference layer system has the following structure:

substrate/M1/T1/M2/T2/S, wherein substrate designates the transparent substrate, M1, M2 denote layers with intermediate index of refraction, T1, T2 denote layers with high index of refraction, S denotes a layer with low index of refraction, and for a reference wavelength of 550 nm the indices of refraction of the individual layers lie in the following range: $n_{low} \leq 1.6$; $1.6 < n_{intermediate} < 1.8$; and $1.9 \leq n_{high}$, and the thickness of the individual layers lies in the following range:

for the layer M1: $70 \text{ nm} \leq d_{M1} \leq 100 \text{ nm}$

for the layer T1: $30 \text{ nm} \leq d_{T1} \leq 70 \text{ nm}$

for the layer M2: $20 \text{ nm} \leq d_{M2} \leq 40 \text{ nm}$

for the layer T2: $30 \text{ nm} \leq d_{T2} \leq 50 \text{ nm}$

for the layer S: $90 \text{ nm} \leq d_S \leq 110 \text{ nm}$.

19. (Currently amended) A method for the coating of a ~~substrate, a transparent substrate with an interference layer system according to claim 1, characterized in that the,~~ comprising:

~~deposition of the individual layers is performed~~ depositing by means of cathode sputtering, physical vaporization, or chemical gas-phase deposition, ~~especially ion or plasma-assisted~~ at least five individual layers to the transparent substrate, wherein consecutive layers of the five individual layers have different indices of refraction and the five individual layers have UV and temperature-stable inorganic materials, wherein the interference layer system has the following structure:

substrate/M1/T1/M2/T2/S, wherein substrate designates the transparent substrate, M1, M2 denote layers with intermediate index of refraction, T1, T2 denote layers with high index of refraction, S denotes a layer with low index of refraction, and for a reference wavelength of 550 nm the indices of refraction of the individual layers lie in the following range: $n_{\text{low}} \leq 1.6$; $1.6 < n_{\text{intermediate}} < 1.8$; and $1.9 \leq n_{\text{high}}$, and the thickness of the individual layers lies in the following range:

for the layer M1: $70 \text{ nm} \leq d_{\text{M1}} \leq 100 \text{ nm}$

for the layer T1: $30 \text{ nm} \leq d_{\text{T1}} \leq 70 \text{ nm}$

for the layer M2: $20 \text{ nm} \leq d_{\text{M2}} \leq 40 \text{ nm}$

for the layer T2: $30 \text{ nm} \leq d_{\text{T2}} \leq 50 \text{ nm}$

for the layer S: $90 \text{ nm} \leq d_{\text{S}} \leq 110 \text{ nm}$.

20. (Currently amended) The method according to claim 18, ~~further characterized in that~~ wherein the substrate is coated on both sides.

21. (Currently amended) The method according to claim 18, ~~further characterized in that one side of the substrate is covered and~~ wherein the substrate is only coated on one side.

Claims 22 though 30. (Cancelled)

31. (New) A method for coating a UV-reflective interference layer system on a transparent substrate, the method comprising:

depositing a first layer on a first side the transparent substrate, the first layer having an intermediate index of refraction and a first thickness greater than or equal to 70 nm but less than or equal to 100 nm;

depositing a second layer on the first layer, the second layer having a high index of refraction and a second thickness greater than or equal to 30 nm but less than or equal to 70 nm;

depositing a third layer on the second layer, said third layer having said intermediate index of refraction and a third thickness greater than or equal to 20 nm but less than or equal to 40 nm;

depositing a fourth layer on the third layer, said fourth layer having said high index of refraction and a fourth thickness greater than or equal to 30 nm but less than or equal to 50 nm; and

depositing a fifth layer on the fourth layer, said fifth layer having a low index of refraction and a fifth thickness greater than or equal to 90 nm but less than or equal to 110 nm, wherein at a reference wavelength of 550 nm said low index of refraction is less than or equal to 1.6, said intermediate index of refraction between 1.6 and 1.8; and said high index of refraction is greater than or equal to 1.9.

32. (New) The method according to claim 31, wherein said first through fifth layers are deposited by a method selected from the group consisting of a dip method, a spin method, cathode sputtering method, a physical vaporization method, and a chemical gas-phase deposition method.

33. (New) The method according to claim 31, wherein said first through fifth layers are formed of temperature-stable inorganic oxides.

34. (New) The method according to claim 33, wherein said inorganic oxides are largely transparent above a wavelength of light of 320 nm.

35. (New) The method according to claim 33, wherein said first through fifth layers comprise a material selected from the group consisting of TiO_2 , Nb_2O_5 , Ta_2O_5 , CeO_2 , HfO_2 , SiO_2 , MgF_2 , Al_2O_3 , ZrO_2 , and any combinations thereof.

36. (New) The method according to claim 31, wherein said high index of refraction comprises TiO_2 , said low index of refraction comprises SiO_2 , and said intermediate index of refraction comprises a mixture of TiO_2 and SiO_2 .

37. (New) The method according to claim 31, further comprising depositing said first through fifth layers on a second side the transparent substrate.

38. (New) The method according to claim 31, further comprising covering a second side of the transparent substrate.

39. (New) The method according to claim 38, further comprising depositing a heat-reflecting coating on said second side.

40. (New) The method according to claim 31, further comprising depositing a heat-reflecting coating on the first side of the transparent substrate before deposition of said first layer.

41. (New) The method according to claim 40, further comprising depositing said heat-reflecting coating on a second side of the transparent substrate.

42. (New) The method according to claim 31, further comprising depositing a heat-reflecting layer on said fifth layer.

43. (New) The method according to claim 42, wherein said heat-reflecting layer has a surface resistance less than 20 Ω .

44. (New) A method of forming a UV-reflective interference layer system for a transparent substrate, comprising:

applying a first layer to the transparent substrate, said first layer having an intermediate index of refraction;

applying a second layer to said first layer, said second layer having a high index of refraction;

applying a third layer to said second layer, said third layer having said intermediate index of refraction;

applying a fourth layer to said third layer, said fourth layer having said high index of refraction; and

applying a fifth layer to said fourth layer, said fifth layer having a low index of refraction, said first through fifth layers combining to transmit less than 8% of light having an UV wavelength while transmitting greater than 90% of light having a visible wavelength.

45. (New) The method according to claim 44, wherein said intermediate index of refraction is between about 1.6 and about 1.8 for a reference wavelength of 550 nm, said high index of refraction of greater than or equal to 1.9 for said reference wavelength, and said low index of refraction of less than or equal to 1.6.

46. (New) The method according to claim 44, wherein the transparent substrate is glass selected from the group consisting of a hard glass, a soft glass, and quartz glass.

47. (New) The method according to claim 44, further comprising applying a heat-reflecting coating to either said fifth layer or between the transparent substrate and said first layer.

48. (New) The method according to claim 47, wherein said heat-reflecting coating provides a heat transfer value less than $3.5 \text{ W/m}^2\text{K}$.

49. (New) The method according to claim 44, wherein said first through fifth layers combine to provide broadband antireflection at a viewing angle in a range of between 12.5 degrees to about 50 degrees.